NC Plumbing Code

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300 Chapter 3 General Regulations

305.6 - **Question:** I am being told the code does not allow water supply lines to be installed outside a building, unless they are below grade. Is this true?

Answer: The code currently does not address water lines outside above grade. It eludes to the installation being prohibited. The ICC plumbing code states if it is outside, it shall be below grade. Working with TAB, the following interpretation was developed:
Installation of water lines outside a structure above grade is prohibited. If this type of installation is unavoidable, then one of the following options may be used:
1. Use of a listed heat tape/trace providing protection from the frost line to the point of termination above grade or where the pipe enters the structure.
2. Provide a listed enclosure to prevent freezing
3. Provide a sealed engineer's letter providing details on how to protect the pipe.

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The official interpretation is attached and has been uploaded to our website.

312.2 - Question: I was told that Mecklenburg County does not do underslab inspections for residential plumbing, is this true?

Answer: Underslab inspections are required per 312.2 NCPC for DWV and 312.5 NCPC for water supply system.

312.2 Drainage and vent water test. A water test shall be applied to the drainage system within the building either in its entirety or in sections. If applied to the entire system, all openings in the piping shall be tightly closed, except the highest opening, and the system shall be filled with water to the point of overflow. If the system is tested in sections, each opening shall be tightly plugged except the highest openings of the section under test, and each section shall be filled with water, but no section shall be tested with less than a 10-foot (3048 mm) head of water. In testing successive sections, at least the upper 10 feet (3048 mm) of the next preceding section shall be tested so that no joint or pipe in the building, except the uppermost 10 feet (3048 mm) of the system, shall have been submitted to a test of less than a 10-foot (3048 mm) head of water. This pressure shall be held for at least 15 minutes. The system shall then be tight at all points.

312.5 Water supply system test. Upon completion of a section of or the entire water supply system, the system, or portion completed, shall be tested and proved tight under a water pressure not less than the working pressure of the system; or an air test of not less than 100 psi (688 kPa). This pressure shall be held for at least 15 minutes. The water utilized for tests shall be obtained from a potable source of supply. The required tests shall be performed in accordance with this section and Section 107.

400 Chapter 4 Fixtures, Faucets & Fittings

403.3 - Question: Are restrooms required in an unattended, self service laundromat?

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Answer: Yes, laundromats are a business occupancy. There may not be regular employees, but there will be customers.

500 Chapter 5 Water Heaters

504.7 - Question: Are pans required for tankless waterheaters?

Answer: In our current code, section 504.7 requires a pan for all types of waterheaters. It doesn't distinguish between tank or tankless.
This language changed in the 2012 IPC, our current code is based on the 2009 IPC. The new language only requires a pan for storage-tank type waterheaters only.
"504.7 Required pan. Where a storage tank-type water heater or a hot water storage tank is installed in a location where water leakage from the tank will cause damage, the tank shall be installed in a galvanized steel pan having a material thickness of not less than 0.0236 inch (0.6010mm) (No. 24 gage), or other pans approved for such use."
We have decided to accept this new code language as an alternate method. This new code language would not require pans under tankless waterheaters.

600 Chapter 6 Water Supply and Distribution

700 Chapter 7 Sanitary Drainage

706.4 - Question: I heard the building code council deleted the section on heel-inlet quarter bends, does this mean they are not allowed anymore?

Answer: Effective January 1, 2016, section 706.4 was deleted from the plumbing code. This action only helped to clarify when a heel- or side-inlet was allowed. By

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deleting section 706.4, the only reference let to heel- and side-inlet quarter bends is found in footnote "f" of Table 706.3, which reads as follows:
"The heel inlet connection of a quarter bend may be used as a wet or dry vent if the heel inlet connection of the quarter bend is located in the vertical position. The heel or side inlet connection may be used as a wet vent if the quarter bend is located directly below a water closet or other fixture with one integral trap."
The footnote only contains 2 sentences. The first states a heel-inlet may be used in the vertical position as a wet or dry vent. The second, states a heel- or side-inlet may be used directly below a water closet or other fixture with an integral trap.

712.3.4.1 - Question: Are alarms required for small sump pumps under a sink?

Answer: No, Section 712.3.4.1 requires an alarm for Sump Pumps. The definition of Sump is a tank or pit below normal grade of the gravity system. The alarm is required to notify the occupants there is a malfunction. The small pumps installed under a sink is not a sump. If there is a malfunction, it would backup into the sink it serves and the occupant would be able to see this.
SUMP. A tank or pit that receives sewage or liquid waste, located below the normal grade of the gravity system and that must be emptied by mechanical means.

SUMP PUMP. An automatic water pump powered by an electric motor for the removal of drainage, except raw sewage, from a sump, pit or low point.

715.1 - Question: I am plumbing a multi-story apartment and the fixtures on the first floor are below the manhole. I installed a backwater valve, but was turned down and told the fixtures above the manhole have to be connected after the backwater valve. Is this right?

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Answer: Section 715.1 requires fixtures with flood level rims below the next upstream manhole to be protected by a backwater valve. It also prohibits fixtures above the manhole from discharging through the backwater valve.
Note - Effective January 1, 2016 section 715.1 has been changed to read as follows:
"715.1 Sewage backflow. Where plumbing fixtures are installed on a floor with a finished floor elevation below the elevation of the manhole cover of the next upstream manhole in the public sewer, such fixtures shall be protected by a backwater valve installed in the building drain, branch of the building drain or horizontal branch serving such fixtures. Plumbing fixtures installed on a floor with a finished floor elevation above the elevation of the manhole cover of the next upstream manhole in the public sewer shall not discharge through a backwater valve."

800 Chapter 8 Ind./Special Waste

802.2 - Question: I have an existing floor drain in the middle of the room. Can I install a second floor drain in the room and tie it into the existing floor drain?

Answer: Yes, if there is sufficient distance between the existing floor drain and the trap seal. The additional floor drain would indirect into the existing one above the trap seal. The allowable distance between the 2 floor drains would be specified in 802.2
802.2 Installation. All indirect waste piping shall discharge through an air gap or air break into a waste receptor or standpipe. Waste receptors and standpipes shall be trapped and vented and shall connect to the building drainage system. All indirect waste piping that exceeds 2 feet (610 mm)in developed length measured horizontally, or 4 feet (1219 mm) in total developed length, shall be trapped.

900 Chapter 9 Vents

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1000 Chapter 10 Traps and Interceptors

1100 Chapter 11 Storm Drainage

1101.4 - Question: I am installing a storm drainage system in a building. There are several conductors that pass through the building. I am being told I have to test each one. This isn't the sanitary system, only storm.

Answer: Section 1101.4 refers you to section 312. Section 312 requires a water test on the drainage system within the building.

1101.4 Tests. The conductors and the building storm drain shall be tested in accordance with Section 312.

312.2 Drainage and vent water test. A water test shall be applied to the drainage system within the building either in its entirety or in sections.

1101.8 - Question: I am installing a storm sewer lateral. The Lateral is 8 inches. I was turned down and told I need manholes instead of cleanouts.

Answer: Section 1101.8, requires cleanouts for the storm drainage system to meet the provisions of the code for the sanitary drainage system. Section 708.3.2 requires manholes for the sanitary sewer for 8 inch and larger.

1101.8 Cleanouts required. Cleanouts shall be installed in the storm drainage system and shall comply with the provisions of this code for sanitary drainage pipe cleanouts.

708.3.2 Gravity building sewers. Building sewers shall be provided with cleanouts located not more than 100 feet (30 480 mm) apart measured from the upstream entrance of the cleanout. For building sewers 8 inches (203 mm) and larger, manholes shall be provided and located not more than 200 feet (60 960 mm) from the junction of the building drain and building sewer, at each change in

direction and at intervals of not more than 400 feet (122 m) apart. Manholes and manhole covers shall be of an approved type.

Appendix

Policy

Other - Question: When is NCDENR applicable for commercial sites?

Answer: The NC Department of Insurance has interpreted that site utility projects (sewer/domestic water and/or fire installations) under the scope of the NCDENR review/approval process are exempt from the NC Building Codes. Therefore, manholes and piping connecting the manholes are exempt from the plan review/inspection process after the designer provides proof (a right to work permit). The installation of laterals requires permitting and inspections by our department. ALL of our inspections are "open ditch" inspections and SHALL NOT be covered until inspected by Code Enforcement Inspectors. Water/Combo lines 5 feet outside the structure. Sewer laterals to the first manhole.

Other - Question: I am installing a manufacturing machine that circulates water to and from the machine to a tank/filter. Will the piping between the tank and the machine need a plumbing permit?

Answer: No, if the piping is only from the tank to the machine, this would be considered process piping and is out of the scope of the plumbing code.

NCBC - 1109.5.1 - Question: Does a high-low drinking fountain count as 1 or 2 drinking fountains?

Answer: Per Section 1109.5.1 NCBC, a high-low is permitted to be counted as 2 separate drinking fountains.

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1109.5.1 Minimum number. No fewer than two drinking fountains shall be provided. One drinking fountain shall comply with the requirements for people who use a wheelchair and one drinking fountain shall comply with the requirements for standing persons.

Exception: A single drinking fountain that complies with the requirements for people who use a wheelchair and standing persons shall be permitted to be substituted for two separate drinking fountains.

A117.1 - 602 - Question: Can a water dispenser on a refrigerator in a breakroom be used as a substitute for a required drinking fountain?

Answer: No, a water dispenser on a refrigerator cannot be used as a substitution for a drinking fountain. There are specific requirements for a drinking fountain in A117.1 section 602 (these include but are not limited to spout height, arc of the water stream, spout location, etc). Also, a drinking fountain can be used without cups.

Manufacture's Installation - Question: The inspector didn't turn me down, but said I shouldn't be testing PEX at 300 psi. Is there a maximum test pressure in the code?

Answer: There is not a maximum test pressure in the code. The manufacturer sets the maximum limits. Several manufacturers state in their installation manuals, if the test pressure exceeds 225 psi, the warranty is void. The warranty is an issue between the manufacturer and the contractor. It is not good practice to test PEX over the rating printed on the pipe.